FIG. 1

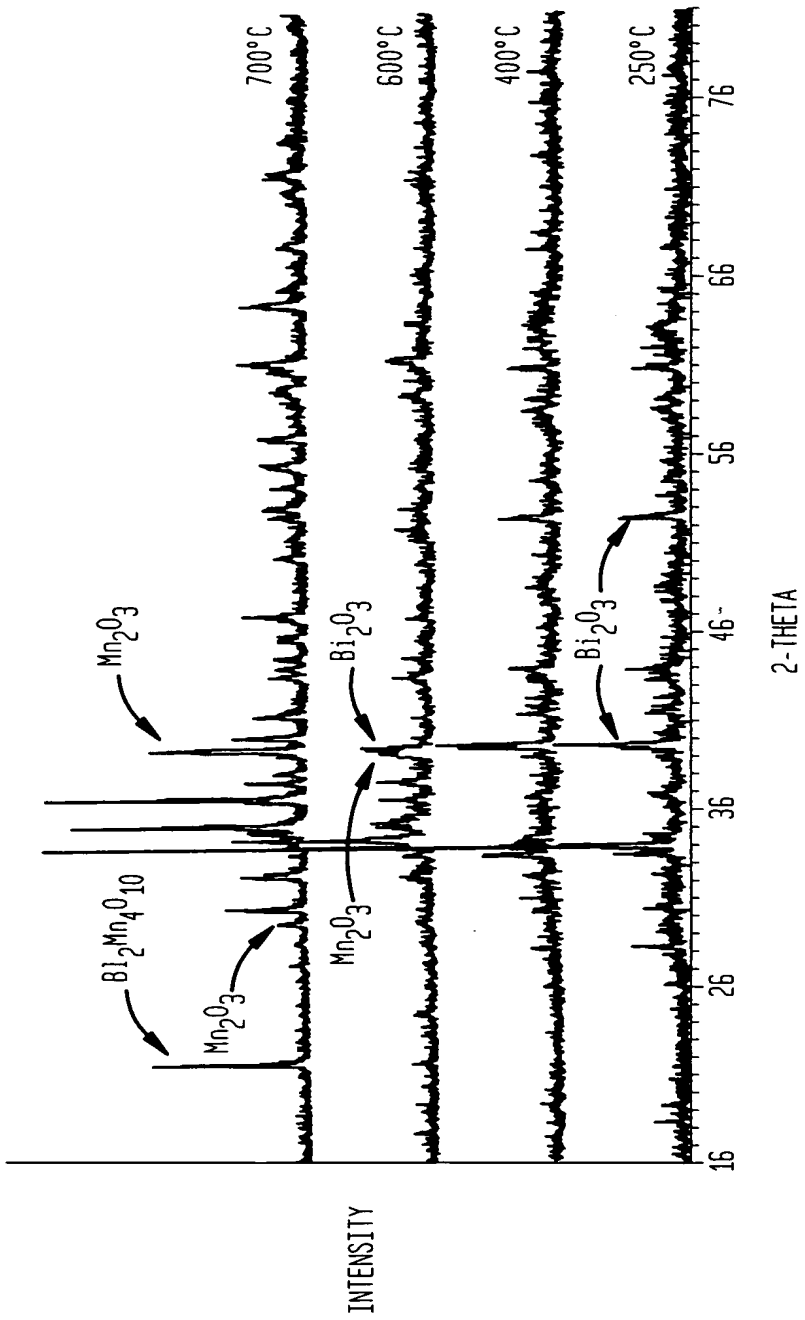

700°C
600°C
400°C
250°C
Mn_2O_3
Bi_2O_3
$Bi_2Mn_4O_{10}$
16
26
36
46
56
66
76
2-THETA
INTENSITY

FIG. 2

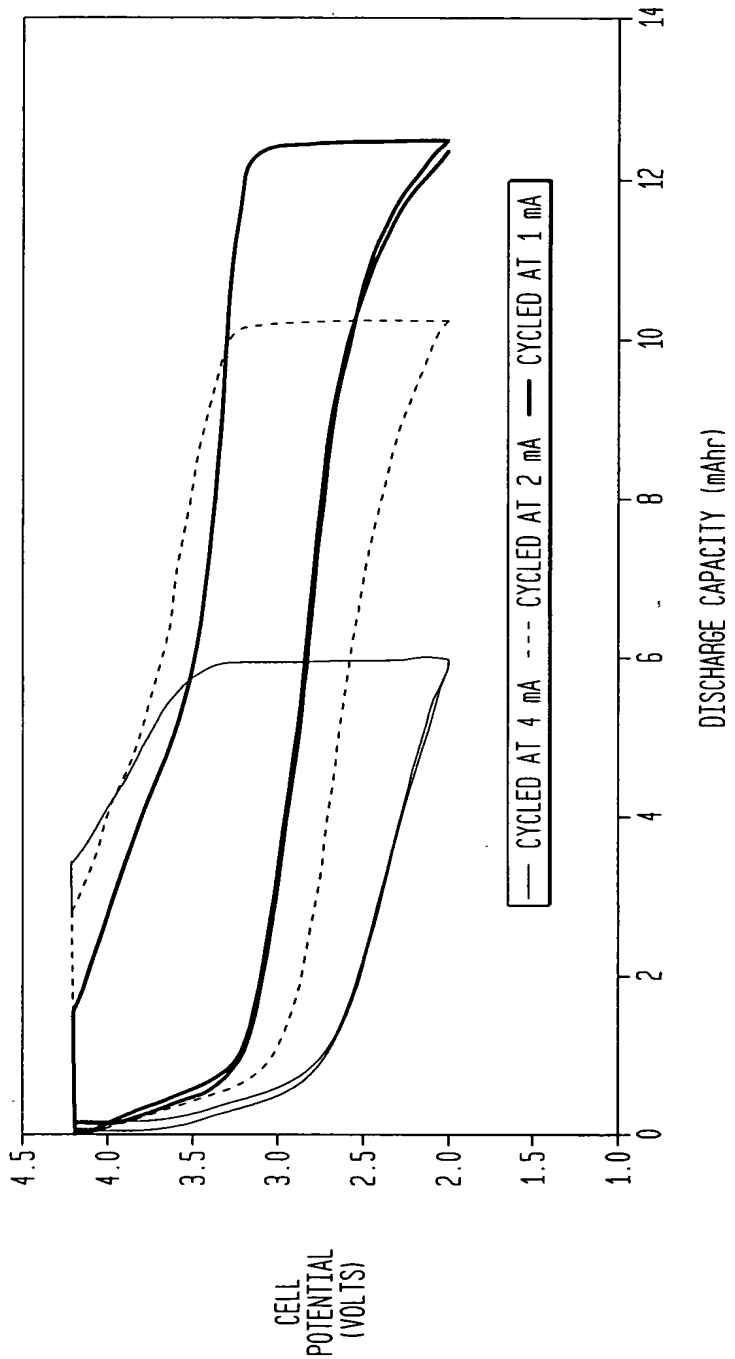

CELL POTENTIAL (VOLTS)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
DISCHARGE CAPACITY (mAhr)
0
2
4
6
8
10
12
14
CYCLED AT 4 mA
CYCLED AT 2 mA
CYCLED AT 1 mA

FIG. 3

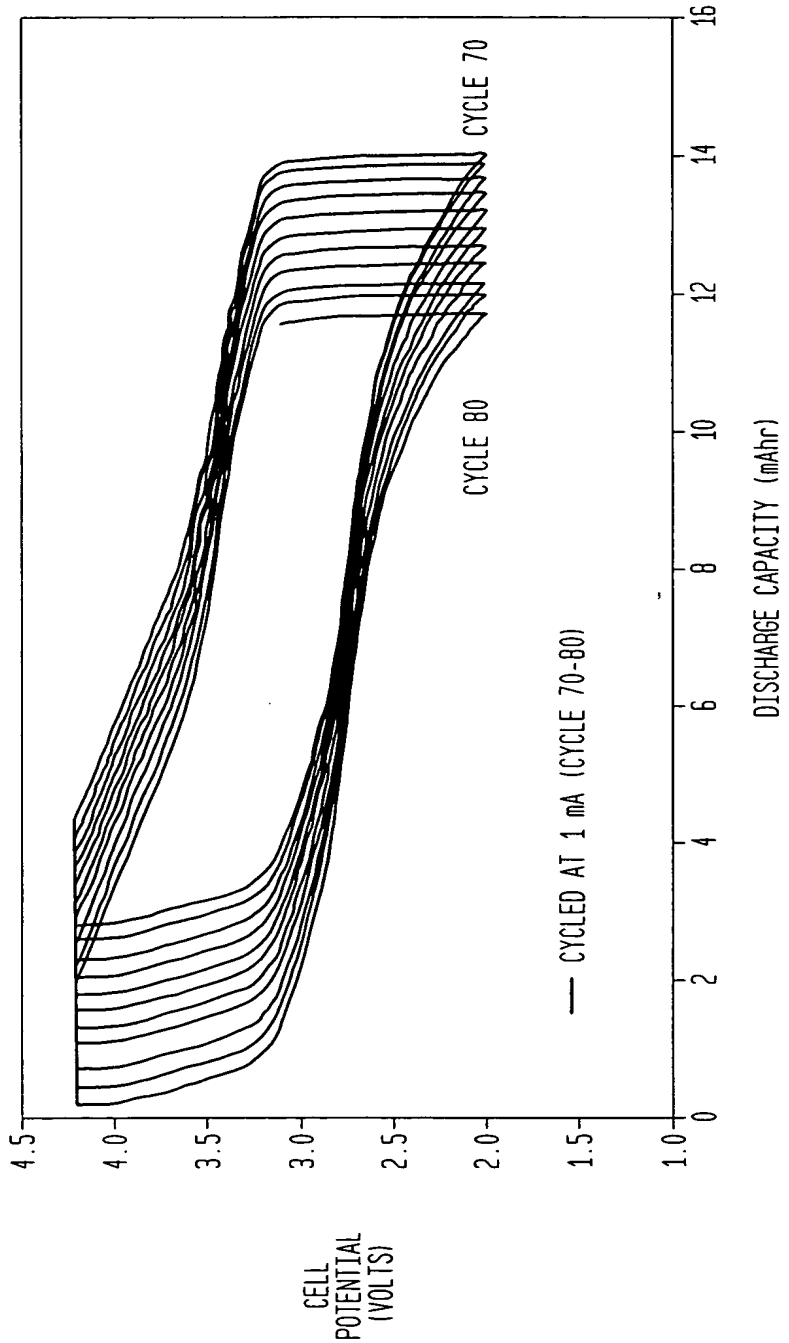

CYCLE 70
CYCLE 80
— CYCLED AT 1 mA (CYCLE 70-80)
CELL POTENTIAL (VOLTS)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
2
4
6
8
10
12
14
16
DISCHARGE CAPACITY (mAhr)

FIG. 4

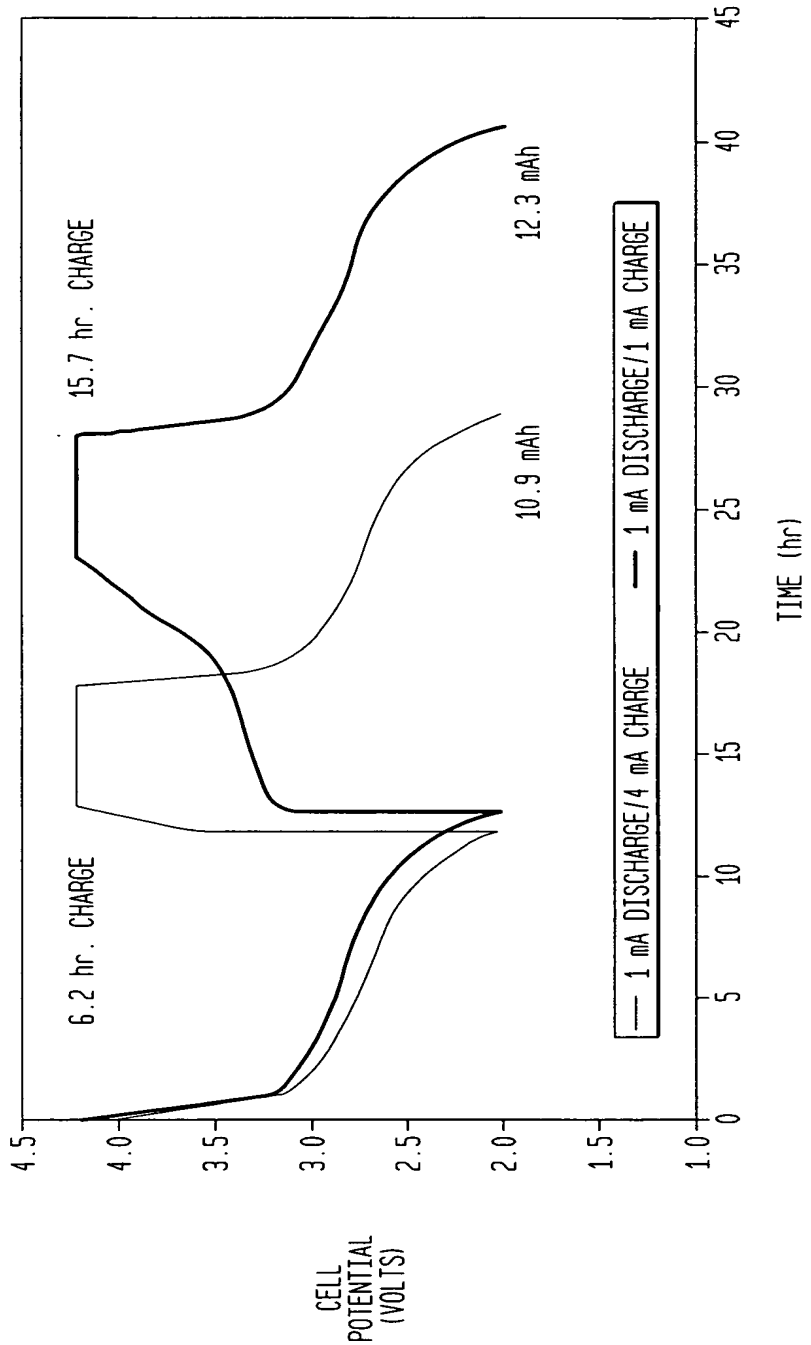
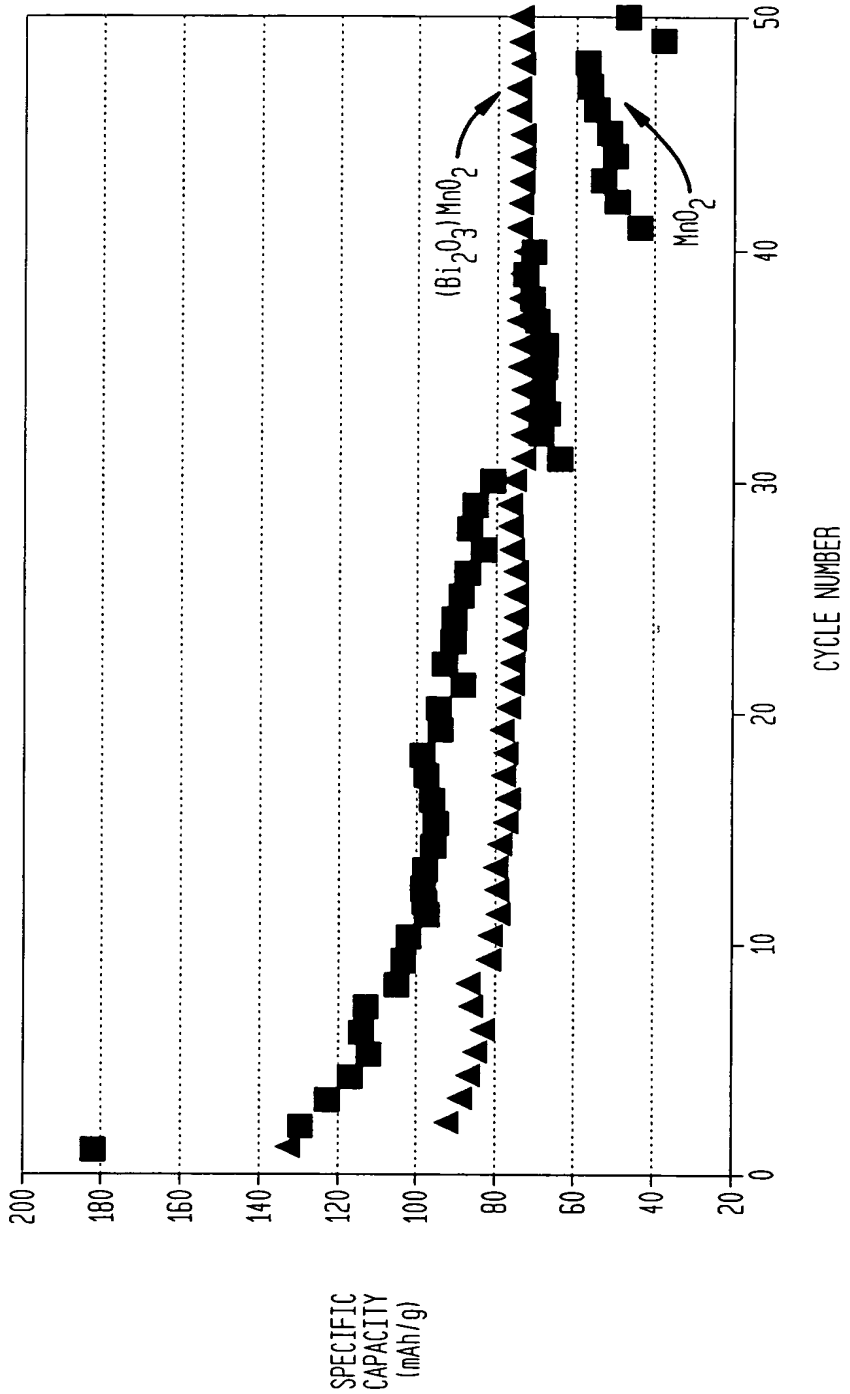

6.2 hr. CHARGE
15.7 hr. CHARGE
10.9 mAh
12.3 mAh
1 mA DISCHARGE/4 mA CHARGE
1 mA DISCHARGE/1 mA CHARGE
CELL POTENTIAL (VOLTS)
TIME (hr)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
5
10
15
20
25
30
35
40
45

FIG. 5


$(Bi_2O_3)MnO_2$
MnO_2
CYCLE NUMBER
SPECIFIC CAPACITY (mAh/g)
0
10
20
30
40
50
200
180
160
140
120
100
80
60
40
20